DT

UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,076	06/25/2001	Masayuki Terao	191486/00	7431

466 7590 12/01/2004	EXAMINER
YOUNG & THOMPSON	LEE, HWA C

YOUNG & THOMPSON
745 SOUTH 23RD STREET
2ND FLOOR
ARLINGTON, VA 22202

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 12/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

DT

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 June 2004*.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

1.   This office action is in response to the amendment filed 06/14/2004, wherein

Masayuki Terao and Hidehiko Okada are the inventor(s).

2.   The application is entitled: "DISPLAY CONROLLER FOR APPLYING DISPLAY

EFFECT".

3.   Claims 1-10 are pending in the application, wherein claims 1, 3 and 9 are

independent claims.

Claim Objections

4.   The previous claim objections to claims 3 and 5 have been overcome in the

current amendment.

Claim Rejections - 35 USC § 103

5.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

6.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining

obviousness under 35 U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating
          obviousness or nonobviousness.

7.   Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Henshaw in view of Lentz, U.S. Patent No., 5,515,494.

8.   In regards to claim 1, Henshaw discloses the following limitations:

a display controller

- Method and system for manipulating the display of multiple applications, which

  are displayed in overlapping windows within a data processing system (Col. 2,

  lines 43-46) specifically is a display controller. In addition, a method and system

  for a variable "depth control" within a plurality of overlapping windows is provided

  (Col. 2, lines 47-49). Controlling the depth of a plurality of overlapping windows

  specifically is also controlling the display of the plurality of windows.

comprising: a first element detecting first and second screen regions on a

screen, said first screen region including overlapping and un-overlapping

regions, said overlapping region of said first screen region overlapping said

second screen region and said un-overlapping region of said first screen region

not overlapping said second screen region;

- As applied above, Henshaw discloses controlling display of multiple applications,

  which are displayed in a plurality of overlapping windows (Col. 2, line 50 – Col. 3,

  line 7). Each window is a screen region, wherein the first and second screen

  regions overlap at least partially. The overlapping region of the first window

  inherently overlaps the second window, and the un-overlapping regions does not

  overlap said second window. This is just a recitation of the well-known definition

  of overlap and un-overlap.

And a second element determining whether said overlapping region of said first

screen region is hidden behind said second screen region; and

- Henshaw explicitly teaches a depth control window and a plurality of title bars for displaying the relative display position of each window within display screen (Col. 4, line 44 – Col. 5, line 9 and FIG. 3). Determining the depth of each window specifically is determining which window is hidden behind other windows.

9.   In regarding the limitations of the following third element, Henshaw teaches displaying overlapping windows and applying display effects to the active region, and FIGS. 2-5 explicitly teaches displaying only the visible, non-overlapping regions of each window. Henshaw, however, is silent to whether the display effects (i.e. drawing the pixels) in the hidden regions. It is well known in the art that hidden regions of overlapping display regions are not processed (i.e. pixels are not drawn, thus clipped) in order to reduce work of display processor. This is called display culling or clipping. Thus, even though Henshaw is silent to the display culling, it would have been obvious to one of ordinary skill in the art to cull the hidden regions.

10.   An analogous art, Lentz, explicitly teaches display clipping of hidden regions, and thus Henshaw and Lentz in combination teaches the following limitations.

and a third element applying display effect to said un-overlapping region of said

first screen region without applying said display effect to said overlapping region

of said first screen region when said second element determines that said

overlapping region of said first screen region is hidden behind said second

screen region.

- Henshaw teaches Graphics controls (FIG. 3, No. 50) are also provided for altering the color and/or pattern of a particular window as desired by a user. Changing the color and/or pattern of a window specifically is applying a display effect. In addition, said color and/or pattern can be change for a **particular** window as desired by a user, and thus the display effect can be applied to one window at a time as desired by the user. The graphics controls specifically allow the user to apply said display effect to only the first window (first screen region) and not the second overlapping window (second screen region).

- While Henshaw is silent to display culling, FIGS 2-5 explicitly teaches applying display effects to un-overlapping regions only. If the hidden portions are not displayed, then display effects are not applied to said hidden portions.

- Lentz explicitly teaches determining the hidden region and drawing only the visible (non-hidden) pixels (FIGS. 1, 4, 7 and 10-11; Col. 4, line 66 – Col. 6, line 4). Drawing only the visible pixels and clipping the hidden pixels specifically are applying display effects to the un-overlapping region and not applying display effects to hidden regions. Thus, Lentz determines which window is on top and which window is hidden behind.

11.   Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to take the teachings of Henshaw and to add from Lentz the method of clipping hidden pixels of overlapping windows in order to apply display effects only to the un-overlapping regions. Display clipping or culling allows the display driver from displaying the hidden pixels, which is unnecessary. Said display clipping thus allows

the display system to reduce processing steps, which provides a more efficient display system.

12.   In regards to claim 2, the same basis and rationale for claim rejection as applied to claim 1 are applied. Henshaw explicitly teaches color or contrast correction.

13.   Claims 3-5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Henshaw in view of Lentz as applied to claims 1-2 above, and further in view of Porter, U.S. Patent No., 6,570,595.

14.   In regards to claim 3, Henshaw discloses the following limitations:

An information processor comprising:

- FIG. 1 depicts a pictorial representation of a data processing system (FIG. 1, No. 10) comprising a processor (FIG.1, No. 12), a keyboard (FIG. 1, No. 14), a display device (FIG. 1, No. 16), which includes a display screen (FIG. 1, No. 18), and a graphics pointing device, such as a mouse pointer (FIG. 1, No. 20). Said data processing system comprising a processor specifically is ***an information processor.***

a component detector detecting a display component located within a first window on a screen;

- Said graphics pointing device is used to graphically select an element within a display screen in a manner well known in the art. Thus, by using a mouse pointer, the user selects an element in the active window, which specifically is ***a particular display component located within a first window on a screen.***

Selecting a particular display component specifically is detecting the particular

display component, and thus the mouse is specifically *a detector.*

a window location detector detecting locations of said first window and a second

window on said screen sand front-behind relationship between said first window

and said second window;

- As applied to claims 1-2 above, Henshaw explicitly teaches a depth control

  window and a plurality of title bars, which allows the user to keep track of the

  depth location of each window in respect to other windows on the display. Said

  depth control and determination specifically is detecting the location of first and

  second window and determining the front-behind relationship.

15.   Henshaw and Lentz in combination teach the following limitations.

a component location detector detecting a location, on said screen, of said

display component detected by said component detector;

- As applied to above, Henshaw teaches detecting said display component, and it

  is explicitly shown on FIGS. 2-5 that hidden portions of the second window is not

  displayed. In order to clip the hidden portions, the location of the all components

  on all windows must be known. Henshaw is silent to the clipping method, but

  Lentz explicitly teaches determining if any regions of a window is hidden by a

  second window in order to clip the hidden region as applied to claims 1-2 above.

  Said determining the hidden region, explicitly is detecting the location of all

  components on said screen.

16.   Henshaw, Lentz and Porter in combination teach the following limitations.

and a display effector applying display effect to said visible region of said display component without applying said display effect to a remaining region of said display component, wherein said visible region determiner determines whether said visible region of said display component is visible based on a result of detections by said component location detector and by said window location detector

- Henshaw discloses a display effecter as applied to claims 1-2 above. Henshaw discloses displaying multiple overlapping application in a plurality of windows but is silent to the method of determining the visible region.

- Henshaw and Lentz both do not explicitly teach *said visible region determiner*, but Lentz teaches determining if any region of one window is obscured by a second window, and thus the visible region must be determined when applying the display effect only the un-overlapping regions as applied to claims 1-2 above. In addition, Lentz explicitly teaches determining if said component is hidden behind the second window as applied to claims 1-2 above, and thus determines the location of the components and windows. Further, Henshaw teaches determining the location of windows using depth control windows as applied to claims 1-2 above.

- An analogous art, Porter, explicitly teaches *a visible region determiner determining a visible region of said display component,* and Lentz teaches *when a part of said display component is hidden behind said second window*

- Porter discloses a computer system having a display device with a display surface, a portion of the display surface is reserved for an exclusive use, allowing the contents rendered in the reserve are to be persistently visible (Col. 2, lines 1-6). Preserving a portion of the display surface, which allows visible display of the displayed content specifically is *a visible region determiner*.

17.   It would have been obvious to one of ordinary skill in the art to take the teachings of Henshaw and Lentz, and to add from Porter the image processing system of displaying an image on a window, wherein the visible region of the destination window is determined. When displaying an image on a window, the visible region must be determined in order to avoid overlapping the images and obscuring the images. Also, the addition of Porter allows images to be displayed in appropriate windows, wherein the content is always visible. Further, all references are directed to controlling displays of multiple display windows.

18.   In regards to claim 4, Henshaw, Lentz and Porter in combination disclose the following limitations.

An information processor as claimed in claim 3, wherein said visible region determiner comprises: a component location detector, which detects a location on said screen of said particular display component detected by said component detector; and a window location detector, which detects locations of a plurality of windows on said screen and front-behind relationship between said windows; wherein said visible region determiner determines said actually visible region of said region in which said particular display component is to be displayed using

result of detection by said component location detector and by said window

location detector.

- Henshaw, Lentz and Porter teach the limitation of an information processor

  comprises a visible region determiner as applied to claim 3 above. In order for

  the visible region determiner to determine the visible region to display a particular

  component, the location of other components in the target window must be

  determined. Thus, the result of the component location detector and the window

  location detector must be used by the visible region determiner in determining

  the visible region in a window.

- Henshaw is directed to a graphic method and system for manipulating and

  organizing the display of multiple applications, which are displayed in overlapping

  windows within a data processing system (Col. 2, lines 43-46).

- In addition, Henshaw discloses the limitation of a mouse pointer, which is used to

  locate and detect a particular component of a window along with the window

  itself. In order to select either a particular component of a window or a window,

  their location must be determined, and the mouse pointer is a standard user

  interface, which allows the user to locate the desired graphical objects, such as

  an icon in a window or a window on a screen.

- Also, Henshaw discloses a depth control system comprising a depth control

  window (FIG. 3, No. 40), which includes a depth indicator (FIG. 3, No. 42, and a

  plurality of title bars indicating the relative order of said plurality of windows.

  Depth indicator (FIG. 3, No. 42) and depth indicia (FIG. 3, No. 46) also aid in

indicating the relative depth and order of said plurality of windows, which are

updated whenever the depth control icon (FIG. 3, No. 38) is selected by

determining which window is open and the relative order of the windows. The

alternation of displays within a display screen can be accomplished by altering

the order and location of said plurality of windows (Col. 4, lines 44 Col. 5, line 9).

Thus, the mouse pointer and the depth control system in combination specifically

are a component location detector and a window location detector.

- Further, said method and system disclosed by Henshaw also provides a "depth"

  control within a plurality of overlapping windows (Col. 2, lines 47-49). Thus, said

  method and system allows for manipulation of the display of multiple windows in

  overlapping fashion and determines the depth order of said multiple windows

  from bottom to top (Col. 2, line 50 – Col. 3, line 7 and Col. 4, lines 44-66). Since,

  the depth control allows for determination of the depth order of said multiple

  windows, the front-back relationship between said multiple windows is also

  determined.

19.   In regards to claim 5, the same basis and rationale for claim rejection as applied

to claims 3-4 above are applied to reject the following:

An information processor as claimed in claim 3, further comprising: a screen

change detector detecting a change in said screen wherein said visible region

determiner determines whether said visible region of said display component is

changed based on result of said screen change detector.

- As applied to claims 3-4 above, Henshaw discloses determining which window is open, the relative location of said plurality of windows, and altering the display windows displayed in a display screen, which specifically are changes in the screen. The depth control icon and the depth control window detects the changes of said screen by updating the depth indicator, depth indicia, and the title bars representing the relative order of windows. When the system determines which window is open (detection of a change in screen), then said visible region determiner displays an application in the open window by determining the visible region of said region since only the open window is fully visible on the screen. Thus, the changes to the visible region are determined by the user based on the result of the depth control icon, which specifically is the screen change detector.

20.   In regards to claim 7, the same basis and rationale for claim rejection as applied to claims 1-3 are applied.

21.   In regards to claim 8-9, the same basis and rationale for claim rejection as applied to claims 1-4 are applied. Said display controller of claim 1 functions all limitations of said display control method of claims 8-9.

22.   In regards to claim 10, the same basis and rationale for claim rejection as applied to claims 1-4 are applied. In addition, Henshaw discloses using a computer readable code (software) to implement the method and system of a display control (Col. 4, lines 4-21). Said software specifically is a *computer program capable of running on a computer so that the computer performs said steps of claim 8*.

23.   Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Henshaw in view of Lentz, and further in view of Porter, as applied to claims 3-5 and 7-10 above, and further in view of Taylor, U.S. Patent No., 6,118,461.

24.   In regards to claim 6, Henshaw and Porter disclose the limitation of an information processor as applied to claim 3 above, but do not disclose the limitation of *an information processor as claimed in claim 3, wherein said display component is a moving picture.*

25.   Taylor discloses said limitation of displaying a moving picture.

- A display control unit (FIG. 2B, no. 103) controls the display of multiple overlapping windows or a region of the display screen, wherein full motion video is displayed on each window (Col. 5, lines 51-62).

26.   It would have been obvious to one of ordinary skill in the art to take the teachings of Henshaw, Lentz and Porter and to add from Taylor the display controller, which allows the display of a moving picture in order to allow the information processor to display all forms of applications in the plurality of windows. Display of a moving picture allows the system to participate in a video conferencing, wherein the participants can visually communicate with each other in one display window and display other information in the other windows. In addition, all references are directed to controlling displays of multiple display windows.

Response to Arguments

27.   Applicant's arguments with respect to claims 1-10 have been considered but are

moot in view of the new ground(s) of rejection. The newly added limitations directed to

the third element as mentioned in pages 14-17 of the remarks have been fully

considered and a new grounds of rejection have been applied based on a new prior art,

Lentz. The detailed claim rejection is provided above. All amended claims now have

been rejected based on 35 USC 103(a).

Conclusion

28.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hwa C Lee whose telephone number is 703-305-8987. The examiner can normally be reached on M-F 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 703-305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hwa C Lee
Examiner
Art Unit 2672

HCL
11/29/04

MICHAEL RAZAVI
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600